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THE UNIVERSITY OF TOKYO

DEPARTMENT OF BIOLOGY
FACULTY OF SCIENCE
Hongo, Tokyo 113, Japan

Laboratory of Genetics

April 3, 1985

Professor J. Lederberg
Director
The Rockefeller University
1230 York Avenue
New York, N.Y. 10021
U. S. A.

Dear Josh :

Sorry the delay of my correspondence to your reference on phase 1 vs. phase 2 reactions to acridines. As I told you when you visited us, I have been abroad to attend the 13th Aharon Katzir-Katchalsky Conference held in Israel and to visit several institutions in Europe and returned home last week. It was my first visit of Israel, and not only enjoyed the conference but also greatly impressed on the activity of the country.

As far as I know, no relevant informations to explain the difference of reactions to acridines between phase 1 and phase 2 have been reported since Aleck and your report in J. Bacteriol. (1955).

As you may know, McDonough (1965) reported amino acid composition of a number of falgellins of different antigenicity. But as he discussed, 'the phase 2 flagellins (1.2 and enx) did not differ systematically from the various phase 1 flagellin'. In order to consider the difference in the reaction to acridines, informations on the amino acid composition or preferably amino acid sequence of the specific region of flagellin polypeptide might be significant rather than the over all amino acid composition. However, such trial has been retarded because of the insolubilization of the peptide digests of falgellin. Now we are in the situation to overcome the problem by sequence analysis of the cloned DNA of the flagellin genes. The base sequence analysis of Salmonella flagellins so far carried out is limited to 1.2 by Simon's group and partially i by our group. If you are interested in the line of studies I will be glad to discuss the possibility of collaboration. As we have various flagellin mutants, such as the small molecular mutants, excretion deficient mutants *etc.*, we may examine their reactions to acridines and correspond them to the mutant sites. ①

Another approach to corelate the difference of phase 1 and phase 2 with the reaction to acridines may be to look for the difference of physico-chemical characters between two phases. By now, physico-chemical studies of Salmonella flagellins have been confined mostly on 1.2 or enx, and the data on the phase 1 counterpart is scanty for extracting the difference between phase 1 and phase 2.

Sincerely yours

Tetsuo Iino

Thank you, Tetsuo.

① I have nothing to offer as a collaboration, but if you have any interest in pursuing these questions, I would be happy if you did.

As a first step, the reactivity of isolated flagella, and then of reconstituted flagella, should probably be reexamined to be sure some other phase-sensitive gene product is not the issue.

Yours
Josh